

**Claims:**

7-10 (canceled)

5 11-29 (canceled)

30(new). A computer system board expansion housing apparatus for add-on expansion daughter board with complete EMI shield comprising:

an on computer system board PCB shield zone (PCB shield zone),  
10 a metallic expansion housing cover (housing cover), and  
an add-on expansion daughter board,  
wherein, said on computer system board PCB shield zone is a copper clad  
ground plane PCB area fabricated on computer system board PCB as  
part of the computer system board PCB with solderable surrounding  
15 zone where said housing cover can be soldered on to;  
whereby, the non-solderable area of said copper clad ground plane of said  
PCB shield zone is covered with isolation means;  
whereby, said PCB shield zone is installed with at least one connector  
means for installation of said add-on expansion daughter board;  
20 whereby, said connector means providing mechanical support for  
attaching the said add-on expansion daughter board to said computer  
system board with necessary help of other mounting means;  
wherein, said metallic expansion housing cover is a metallic cover box  
with an open base that can be soldered onto the corresponding  
25 solderable surrounding zone of said PCB shield zone;  
whereby, after said add-on expansion daughter board is mounted onto  
said PCB shield zone, said housing cover is soldered onto said PCB  
shield zone covering said add-on expansion daughter board; and

whereby, said housing cover is soldered onto said PCB shield zone forming a complete metallic shield apparatus for said add-on expansion daughter card and other electronics inside the apparatus.

5 31(new). A complete EMI shield and heat conduction expansion housing apparatus for add-on expansion daughter board for computer system board comprising:

an on computer system board PCB shield zone (PCB shield zone),  
a metallic expansion housing cover (housing cover),

10 an add-on expansion daughter board, and  
a plurality of heat conduction means,  
wherein, said on computer system board PCB shield zone is a copper clad ground plane PCB area fabricated on computer system board PCB as part of the computer system board PCB with solderable surrounding zone where said housing cover can be soldered on to;

15 whereby, the non-solderable area of said copper clad ground plane of said PCB shield zone is covered with isolation means;  
whereby, said PCB shield zone is installed with at least one connector means for installation of said add-on expansion daughter board;

20 whereby, said connector means providing mechanical support for attaching the said add-on expansion daughter board to said computer system board with necessary help of other mounting means;  
wherein, said metallic expansion housing cover is a metallic cover box with an open base that can be soldered onto the corresponding solderable surrounding zone of said PCB shield zone;

25 whereby, after said add-on expansion daughter board is mounted onto said PCB shield zone, said housing cover is soldered onto said PCB shield zone covering said add-on expansion daughter board;

whereby, said housing cover is soldered onto said PCB shield zone forming a complete metallic shield apparatus for said add-on expansion daughter card and other electronics inside the apparatus; whereby, said heat conduction means are attached between said add-on expansion daughter board and said metallic expansion housing ; whereby, said apparatus utilizing the said metallic expansion housing cover as heat sink; and whereby, said heat conduction means conducting heat from said add-on expansion daughter card to said metallic expansion housing cover.

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32(new). A computer system board with a plurality of add-on expansion daughter boards and correspondence complete EMI shield expansion housing apparatuses comprising:

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a computer system board,  
a plurality of add-on expansion daughter boards,  
a plurality of metallic expansion housing cover (housing cover), and  
a plurality of optional heat conduction means,

Wherein, said computer system board has a plurality of on computer system board PCB shield zone (PCB shield zone);

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wherein, said a plurality of PCB shield zone are a plurality of copper clad ground plane PCB area fabricated on computer system board PCB as part of the computer system board PCB with solderable surrounding zone each where said housing cover can be soldered on to;

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whereby, the non-solderable area of said copper clad ground plane of said PCB shield zone is covered with isolation means;

whereby, said each PCB shield zone installed with at least one connector means for installation of said add-on expansion daughter board;

whereby, said connector means providing mechanical support for  
attaching the said add-on expansion daughter board to said computer  
system board with necessary help of other mounting means;  
wherein, said metallic expansion housing cover is a metallic cover box  
5 with an open base that can be soldered onto the corresponding  
solderable surrounding zone of said PCB shield zone;  
whereby, after said add-on expansion daughter board is mounted onto  
said PCB shield zone, said housing cover is soldered onto said PCB  
shield zone covering the said add-on expansion daughter board;  
10 whereby, said housing cover is soldered onto said PCB shield zone  
forming a complete metallic shield apparatus (expansion housing  
apparatuses) for said add-on expansion daughter card and other  
electronics inside the apparatus;  
whereby, said heat conduction means may be applied when necessary;  
15 whereby, said heat conduction means are attached between said add-on  
expansion daughter board and said metallic expansion housing;  
whereby, said apparatus utilizing the said metallic expansion housing  
cover as heat sink;  
whereby, said heat conduction means conducting heat from said add-on  
20 expansion daughter card to said metallic expansion housing cover;  
whereby, said computer system board having multiple expansion features  
of expansion daughter boards;  
whereby, the electronics inside one said expansion housing apparatuses  
are not interfering among other the electronics inside the other said  
25 expansion housing apparatuses; and  
whereby, the electronics inside a plurality of said expansion housing  
apparatuses are not interfering with other electronics on said computer  
systems board.

33(new). One computer system board according to claim 32, wherein the said computer system board has stackable connector means for stacking a plurality of said computer system board electronically and mechanically with helps of other mounting means.